

LEVERAGING NURSE INFORMATICISTS FOR DEVELOPMENT OF THE IMPACT TOOL

Human Research Program
Exploration Medical Capability Element

February 7, 2022

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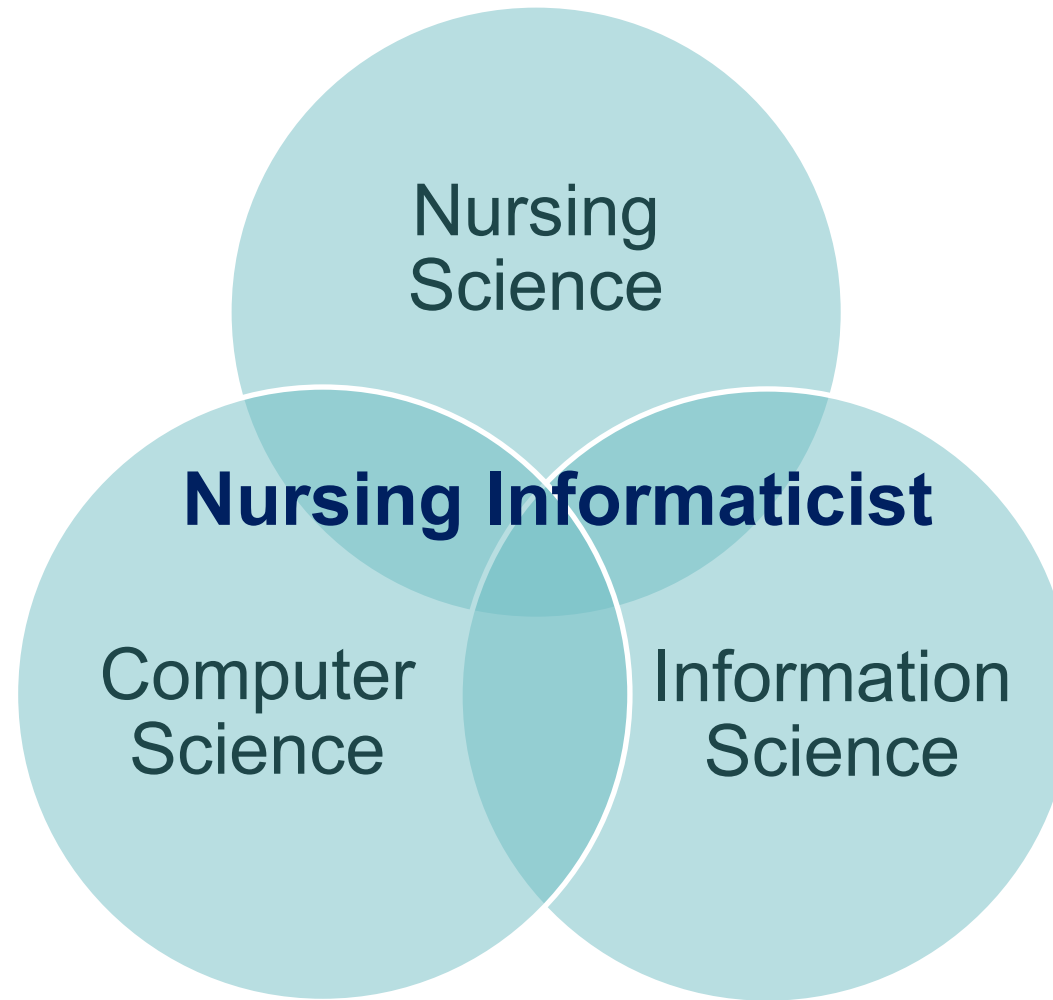
“Expanding the Boundaries of Space Medicine and Technology”

- **What is Nursing Informatics?**
- **What is IMPACT?**
- **How nursing informatics is used in IMPACT**

What is Nursing Informatics?

The American Nurses Association (**ANA**) identified nursing informatics as “the specialty that integrates nursing science with multiple information and analytical sciences to identify, define, manage and communicate data, information, knowledge and wisdom in nursing practice.” (ANA, 2014)

What is Nursing Informatics?



Education and Certifications

- A bachelor's degree in nursing (BSN), at minimum
- A master's degree in nursing or informatics preferred
- Informatics Nursing Certification (RN-BC) – American Nurses Credentialing Center (ANCC)
- Certified Associate in Healthcare Information and Management Systems (CAHIMS) – Health Information Management Systems Society (HIMSS)
- Certified Professional in Healthcare Information and Management Systems (CPHIMS) - HIMSS

What is Nursing Informatics?

Specialty Areas

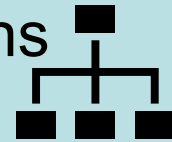
Hospitals/Health Systems

- liaise between clinical areas and IT departments
- Electronic Health Records



Ambulatory Care

- Clinical applications
- Data analysis

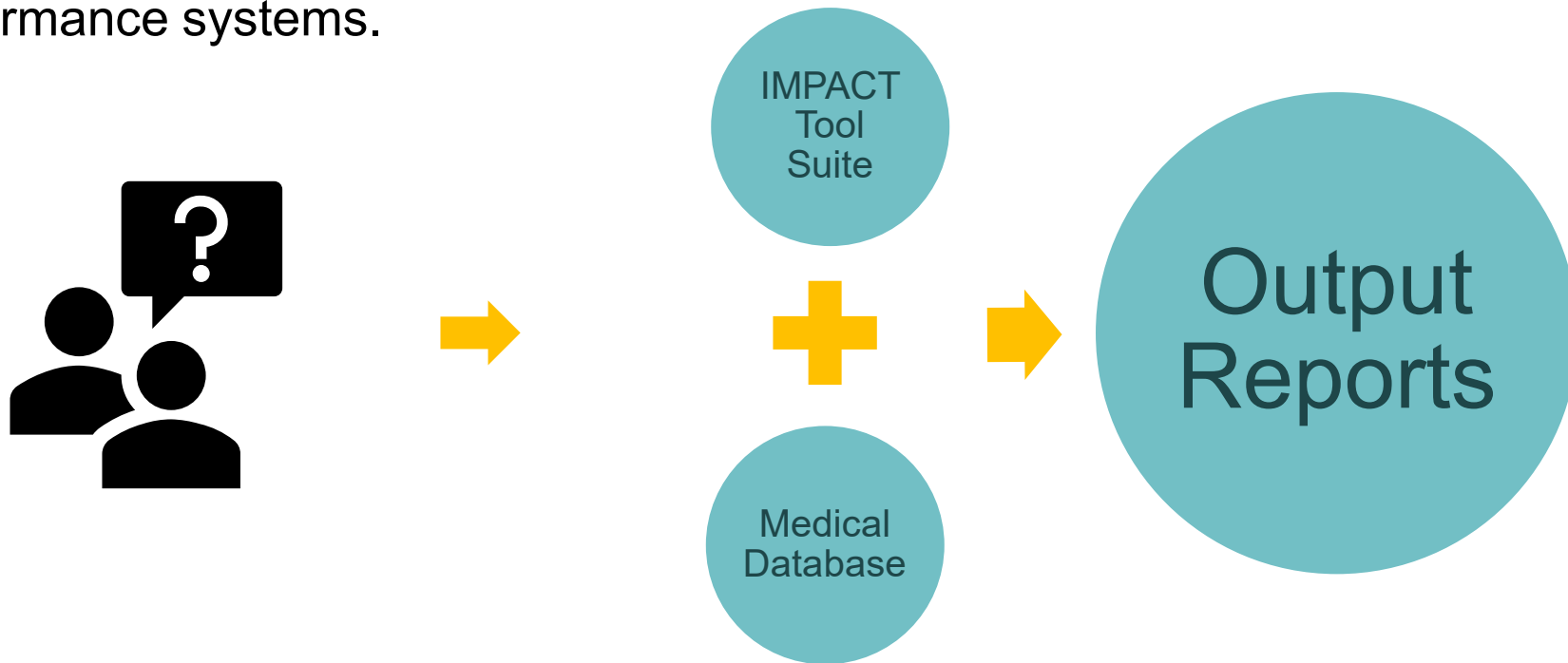


Colleges/Universities

- Conduct research
- Data analysis
- reports



IMPACT (Informing Mission Planning via Analysis of Complex Tradespaces) is a set of functions executed by a suite of computational and systems engineering tools that will be used in informing the decision-making process for the development of human health and performance systems.

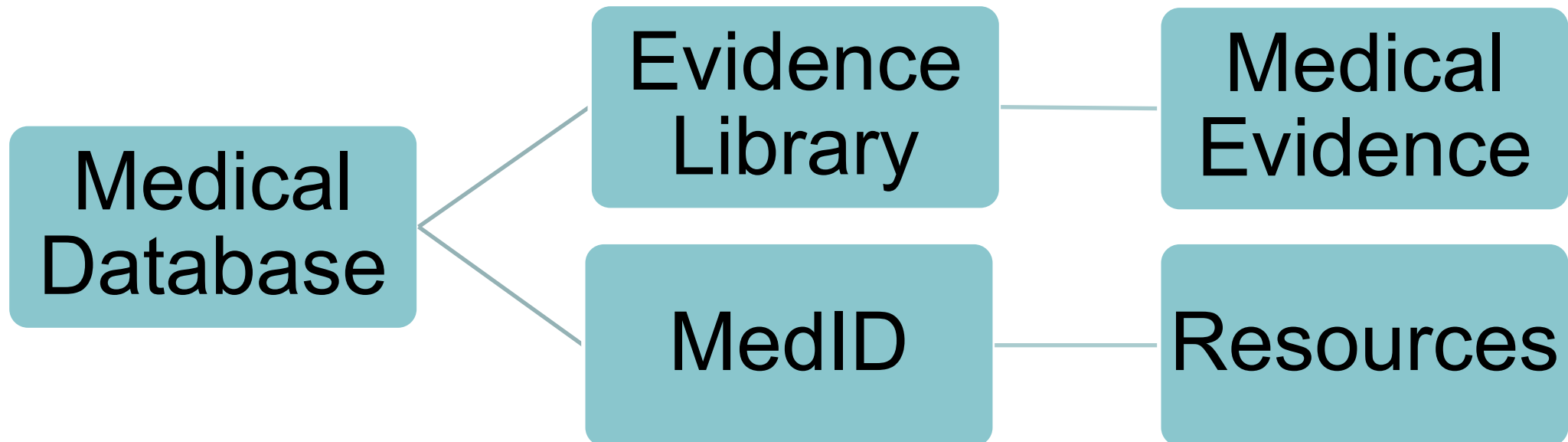


Questions IMPACT can answer

- What medical conditions are likely to occur on specific mission to a particular crew?
- What set of medical capabilities best mitigate risk for a given mass/volume allocation on a specific mission? What if that number is halved?
- If I could reduce the mass or volume of hardware X by 50%, would it be sufficient to manifest? Would developing a new medical intervention for spaceflight that treats 3 different conditions be a better investment?

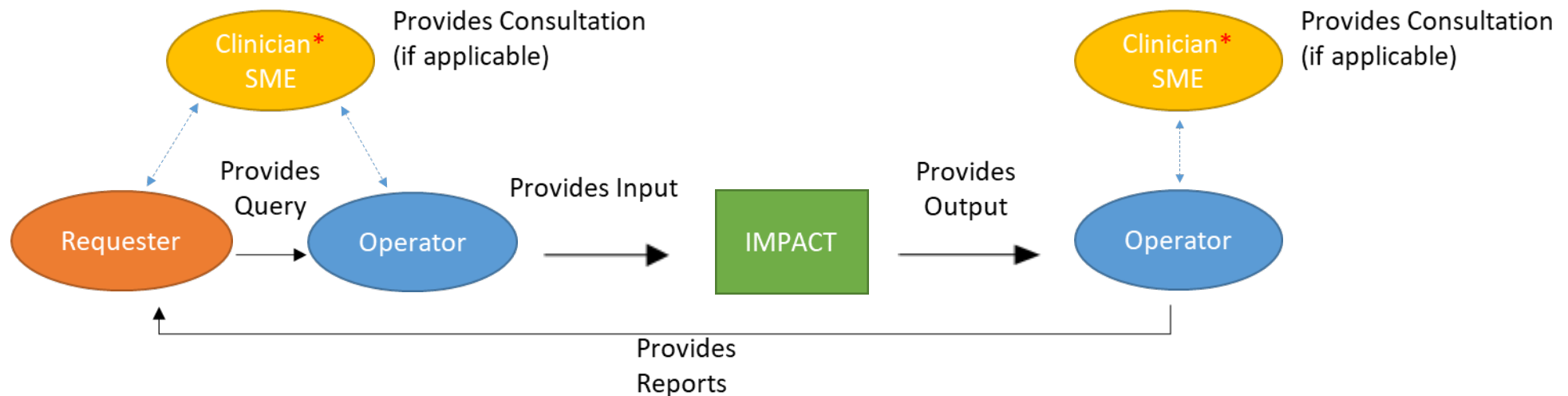


Medical Database



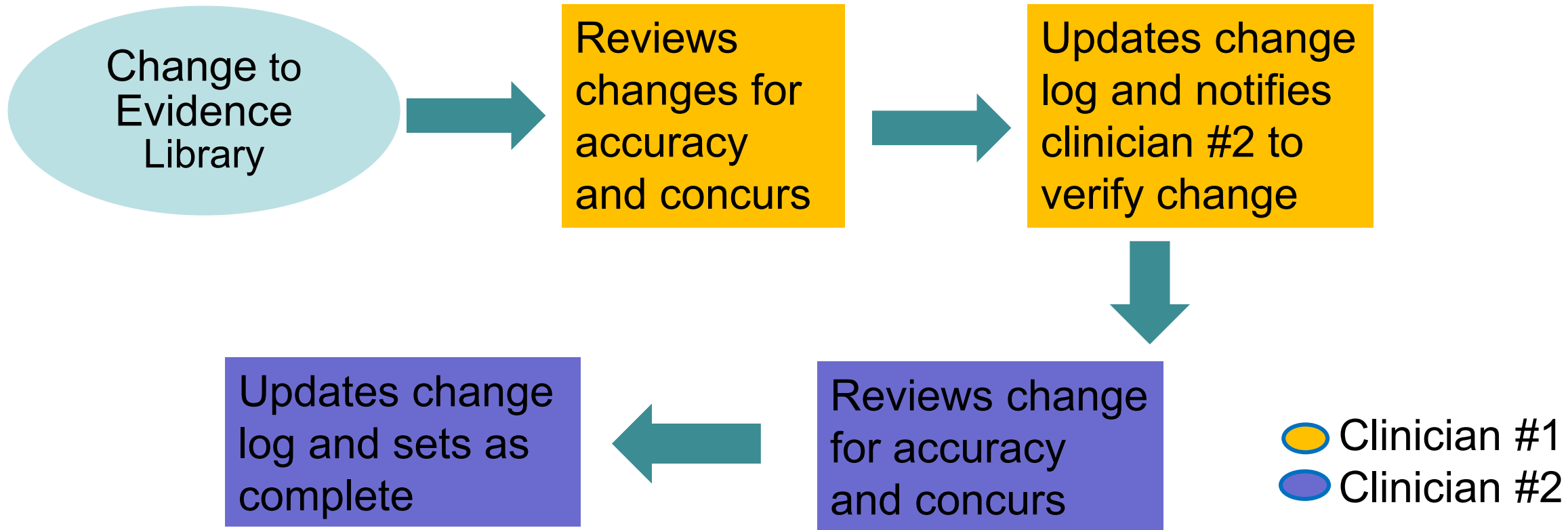
Subject Matter Expert

- Provide clinical input to assist in requests
- Clinical data analysis for reports
- Can act as an Operator



*for some use cases of IMPACT, Clinician/SME consultation may be imperative; for others it may be completely optional

Validating Medical Data



Validating Medical Data

CliFFs

- verifying information documented on Clinical Findings Form (CliFF)
- transcribing that information to Evidence Library (EvLib)
- Performing medical evidence research

Resources and Bundles in EvLib

- Are items missing?
- Is there redundancy?
- Does it make sense clinically?

Evidence Library

- Verifying medical data is entered correctly
- Make changes/updates/corrections to database

Bridge Between Systems and Clinical Teams

- Represent clinical team in project meetings
- Relay information/issues/questions/needs from project team to clinical team
- Review technical documents that contain medical content
- Testing/Reviewing user interface for Human Factors

Database Configuration Management

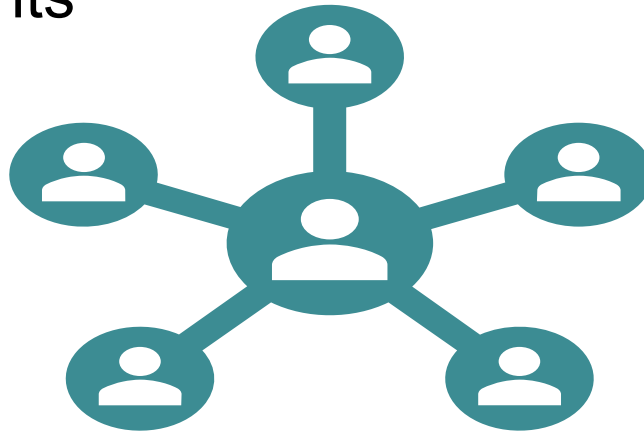
- Manage and keep Evidence Library data organized
- SharePoint - share, organize and archive files for team to have access to



The screenshot displays a SharePoint site titled "HOME - EVIDENCE LIBRARY DATA COLLECTION". The left sidebar contains a navigation menu with links to Home, Document Library, ClIFF Documentation, Peer Review, Impala Inflight Data, Evidence Data Collection Links, Document Delivery Parking Lot, and Calendar. Below these are "Recent" items including "CST EL Data Collection OneNote", "Notebook Library", "Tasks 1", "IMPALA Inflight Data", "Peer Review Status List", "Evidence Library Data Collection", and "Calendar". The main content area shows the "CST EL Data Collection OneNote" document, with a "New" button, "Upload" and "Sync" options, and a "Find a file" search bar. A list of documents is visible, including "CST EL Data Collection Notebook". Overlaid on the center of the screenshot is a graphic of five teal-colored human figures holding hands. To the right, a "Conditions" list is shown, detailing various data collection conditions such as "Biostat Data", "ClIFF v1", "ClIFF v2", "ClIFF v3", "ClIFF v4", "ClIFF v5", and "CRT File for Condition".

Collaboration

- Organizing meetings with clinical team – 3 clinicians to make decisions on modifications, additions, etc. to medical database
- Using nursing knowledge to make clinical decisions/ provide clinical input to EvLib
- Work with developers to validate medical data, make changes/additions/removals to medical database.
- Writing technical documents
- Mentoring students



1. American Nurses Association (ANA). *Nursing Informatics: Scope and Standards of Practice*. 2nd ed. Silver Spring, MD: ANA; 2014.

Questions?

“Expanding the Boundaries of Space Medicine and Technology”